

ABSTRACT

The present invention provides an electromagnetic tracking system that includes a field generator and a field sensor arranged to generate and detect, respectively, an electromagnetic field. Both the transmitter and receiver coils are connected to signal conditioning and processing circuitry to provide outputs indicative of the coil signals. A processor operates on the signals to determine the coordinates of the sensing assembly relative to the generator assembly. The signal processor produces ratiometric outputs, and applies a mutual inductance model to solve for position/orientation coordinates. In some embodiments, a disturber in the form of a conductive ring or a sheath is disposed about an interfering piece of equipment to moderate and standardize disturbances due to eddy currents.